

## Description

# FLOWER ARRANGEMENT HOLDER HAVING HYDROPONIC FUNCTION

### Technical Field

[1] The present invention relates, in general, to flower arrangement holders which are able to be used for hydroponic culture and, more particularly, to a flower arrangement holder having a hydroponic function which lengthens the life span of flowers arranged in the flower arrangement holder, thus maintaining a good appearance of flowers over a long period, and which makes it possible to cultivate hydroponic plants, thus improving a decorative function.

### Background Art

[2] Generally, an oasis, which allows cut flowers to be easily arranged thereon and provides water to the arranged flowers, is used in a flower basket for a gift or to celebrate an event. With the use of such an oasis, cut flowers, which are arranged in the oasis, are supplied with water from the oasis containing water, thus maintaining freshness for a lengthy period, and being prevented from withering.

[3] In the case that flowers, which are not blooming yet, are arranged in an oasis, a greater amount of water is required to bloom the flowers. However, at the time when the flowers are blooming, water contained in the oasis has exhausted or evaporated, so that a sufficient amount of water cannot be supplied to the flowers. As a result, the flowers do not completely bloom. Even if the flowers do bloom, they wither before long.

[4] To overcome these problems, a method that supplies water to an oasis and flowers using a sprayer has been used. However, because this method forces a user to continuously manage the flowers using the sprayer, the user may feel inconvenienced by this method. Thus, this method is ineffective unless the user deliberately cares for the flowers. Furthermore, there is a method in which a life extension agent is applied to the oasis after being mixed with water, thus increasing the life span of the flowers. However, the water containing the life extension agent is not evenly absorbed throughout the entire oasis. As well, there is still a problem in that a sufficient amount of water cannot be supplied to the flowers when the flowers are blooming.

[5] In particular, it takes a few days to supply flowers from a farmhouse producing the flowers to a retail store that sells the flowers to consumers. In the retail store, cut flower stalks are soaked in water contained in a water bucket to maintain the flowers in a fresh state until the flowers are supplied to a consumer. During this period, because a life extension agent is added in the water contained in the water bucket, the freshness

of the flowers is maintained. However, in the case that the flowers are arranged on an oasis containing a predetermined amount of water after having been cut to a predetermined length in order to manufacture a flower basket for consumers, the flowers cannot be affected anymore by the life extension agent in the flower bucket. Merely, the freshness of the flowers is maintained for only a short period by water contained in the oasis. As such, in the case of the conventional oasis, there is a problem of shortening the life span of the flowers.

- [6] Therefore, despite with the high price of the flower basket, the flowers in the flower basket wither shortly. As a result, a user is unsatisfied with the flower basket. Furthermore, when the flowers wither, there is difficulty discarding all of the articles and accessories used in the flower basket. In addition, garbage resulting from the scrapped flower basket may pollute the environment.

### **Disclosure of Invention**

#### **Technical Problem**

- [7] Accordingly, the present invention has been made keeping in mind the above problems occurring in the prior art, and an object of the present invention is to provide a flower arrangement holder having a hydroponic function which has a structure capable of continuously supplying liquid to an absorbent body, in which flowers are arranged, so that the arranged flowers do not easily wither and maintain freshness over a long period.

- [8] Another object of the present invention is to provide a flower arrangement holder having a hydroponic function in which the absorbent body, into which liquid is supplied over a long period, is made of a material capable of cultivating hydroponic plants, thus being used for hydroponic culture as well as flower arrangement.

#### **Technical Solution**

- [9] In order to accomplish the above objects, the present invention provides a flower arrangement holder having a hydroponic function, including: a storage tank sealed by an upper wall, a bottom wall and a sidewall and containing a predetermined amount of liquid therein; an absorbent body seat having a predetermined depth and formed in a central portion of the storage tank to receive therein an absorbent body for absorbing liquid from the storage tank; a liquid supply hole formed through the upper wall of the storage tank at a predetermined position to supply liquid into the storage tank; a flange provided around an outside edge of the upper wall of the storage tank and extending upward to a predetermined height, thus forming a liquid storage space; and a support provided under a bottom of the storage tank such that the bottom of the storage tank is spaced apart from a support surface by a predetermined height.

- [10] The absorbent body seat may include: a sidewall; and a liquid supply pipe provided

in the sidewall of the absorbent body seat to supply the liquid from the storage tank into the absorbent body. The absorbent body seat may be formed in the central portion of the storage tank to the predetermined depth such that a bottom of the absorbent body seat is placed at a predetermined position level with or higher than a lower end of the support. The absorbent body seated into the absorbent body seat may comprise an oasis or a unit made of compressed rockwool or compressed wood. The absorbent body seat into which the absorbent body is seated may include: a drain hole formed through a bottom wall of the absorbent body seat at a predetermined position, with a stopper inserted into the drain hole. The liquid may be water or water containing nutrients required for hydroponic culture. The flower arrangement holder may further include a plurality of bar insertion holes formed on the upper wall of the storage tank at predetermined positions, so that a support bar is inserted into each of the bar insertion holes.

### **Advantageous Effects**

- [11] According to the present invention, the flower arrangement holder having a hydroponic function has advantages in that flowers arranged in the flower arrangement holder do not quickly wither, and maintain their freshness over a long period. As well, the flower arrangement holder of the present invention is able to be used for hydroponic culture.

### **Brief Description of the Drawings**

- [12] FIG. 1 is an exploded perspective view of a flower arrangement holder having a hydroponic function, according to an embodiment of the present invention;
- [13] FIG. 2 is a sectional view of the flower arrangement holder of FIG. 1;
- [14] FIG. 3 is a perspective view showing an example of the use of the flower arrangement holder of FIG. 1; and
- [15] FIG. 4 is a perspective view showing another example of the use of the flower arrangement holder of FIG. 1.

### **Best Mode for Carrying Out the Invention**

- [16] Hereinafter, a flower arrangement holder having a hydroponic function according to the present invention will be described in detail with reference to the attached drawings.
- [17] FIG. 1 is an exploded perspective view of the flower arrangement holder having a hydroponic function, according to the present invention. FIG. 2 is a sectional view of the flower arrangement holder of FIG. 1. FIG. 3 is a perspective view showing an example of a flower arrangement using the flower arrangement holder of FIG. 1. FIG. 4 is a perspective view showing another example of a flower arrangement using the flower arrangement holder of FIG. 1. First, the flower arrangement holder will be

explained herein below with reference to FIGS. 1 and 2.

[18] As shown in FIGS. 1 and 2, the flower arrangement holder of the present invention includes a storage tank 6 which is sealed by an upper wall, a bottom wall and a sidewall and contains a predetermined amount of liquid therein, and an absorbent body seat 4 which has a predetermined depth and is formed in a central portion of the storage tank 6 to receive therein an absorbent body 3 for absorbing liquid from the storage tank 6. A liquid supply hole 7 is formed through the upper wall of the storage tank 6 at a predetermined position to supply liquid into the storage tank 6. The flower arrangement holder further includes a flange 1 which is provided around an outside edge of the upper wall of the storage tank 6 and extends upward to a predetermined height, thus forming a liquid storage space 2. The flower arrangement holder further includes a support 9 which is provided under the bottom of the storage tank 6 such that the bottom of the storage tank 6 is spaced apart from a support surface by a predetermined height. It is preferred that the flower arrangement holder be manufactured through an injection molding process. The reason is that this manufacturing process is simple, and is easily adapted for mass production, and, as a result, manufacturing costs are reduced.

[19] The storage tank 6 is sealed by the upper wall, the bottom wall and the sidewall, thus being able to contain a predetermined amount of liquid therein. The absorbent body seat 4, which receives therein the absorbent body 3 for absorbing liquid from the storage tank 6, is formed in the central portion of the storage tank 6. The absorbent body 3, which is seated into the absorbent body seat 4, comprises an oasis made of material capable of sufficiently absorbing water, or a compressed body made from compressing rockwool powder, rockwool granules, wood (bark of palm) powder or wood (bark of palm) granules.

[20] Preferably, the use of the oasis as the absorbent body 3 is for flower arrangement. The compressed body, made by compressing rockwool powder, rockwool granules, wood (bark of palm) powder or wood (bark of palm) granules, is used as the absorbent body 3 for hydroponic culture.

[21] The absorbent body seat 4, which has the predetermined depth and receives the absorbent body 3 therein, includes a sidewall 5, and a plurality of liquid supply pipes 8 which are provided in the sidewall 5 of the absorbent body seat 4 to supply liquid from the storage tank 6 into the absorbent body 3. However, in the present invention, a means for supplying liquid from the storage tank 6 into the absorbent body 3 is not limited to the liquid supply pipe 8 which is provided in the sidewall 5 of the absorbent body seat 4. For example, a plurality of through holes may be formed through the sidewall 5 of the absorbent body seat 4. Alternatively, the absorbent body seat 4 may directly communicate with the storage tank 6 without the sidewall 5. In other words, as

long as liquid can be supplied from the storage tank 6 into the absorbent body 3, any structure is possible.

[22] Liquid contained into the storage tank 6 is water or water containing nutrients required for hydroponic culture. When flowers are arranged on the absorbent body 3, water is contained into the storage tank 6. When plants are hydroponically cultured, water containing nutrients is used. The reason is that flowers can be maintained merely by being supplied with water, but hydroponically cultured plants require additional nutrients.

[23] The flange 1 having the predetermined height is provided around the outside edge of the upper wall of the storage tank 6. The flange 1 defines the liquid storage space 2 therein. The liquid storage space 2 serves to supplement liquid contained in the storage tank 6. The liquid supply hole 7, which is formed through the upper wall of the storage tank 6 at a predetermined position, allows to liquid to be supplied into the storage tank 6. A stopper 7a is fitted in the liquid supply hole 7 to open and close the liquid supply hole 7 as required.

[24] The flower arrangement holder further includes a plurality of bar insertion holes 11 which are formed on the upper wall of the storage tank 6 at predetermined positions, so that a support bar 12 is inserted into each of the bar insertion holes 11. Thus, in the case of the flower arrangement, the support bars 12 are used for decoration. In the case of hydroponic culture, the support bars 12 serve as supports allowing hydroponically cultured plants to grow along them and, as well, the support bars 12 help the hydroponically cultured plants stand vertically. Here, the support bars 12 may have a variety of shapes to enhance a decorative function.

[25] The absorbent body seat 4 has a drain hole 10 which is formed through a bottom wall of the absorbent body seat 4 at a predetermined position, with a stopper 10a inserted into the drain hole 10. Thus, when liquid, contained in the storage tank 6 or absorbent body seat 4, is rotten so that it is necessary that the liquid be replaced, or when it is desired to clean the absorbent body seat 4, the stopper 10a of the drain hole 10 is opened and, thereafter, the liquid is drained.

[26] The support 9, which is provided under the bottom of the storage tank 6, spaces the bottom of the storage tank 6 apart from a support surface by a predetermined height. Here, the lower end of the support 9 must be placed at a predetermined position level with or lower than the bottom of the absorbent body seat 4, which is formed at the central portion of the storage tank 6 to a predetermined depth. The reason is that, if the bottom of the absorbent body seat 4 is placed at a position lower than the lower end of the support 9, the support 9 cannot execute a desired function.

[27] Hereinafter, several examples of the use of the flower arrangement holder of the present invention will be described.

[28] Before the storage tank 6 is filled with liquid, the absorbent body 3 is seated into the absorbent body seat 4. In this absorbent body seating process, one end of each liquid supply pipe 8, which protrudes inwards from the sidewall 5 of the absorbent body seat 4, is inserted into the interior of the absorbent body 3, as shown in FIG. 2. Then, the absorbent body 3 is reliably supported by the liquid supply pipes 8 and is not undesirably moved.

[29] In the above state, flowers or hydroponic plants are arranged on the absorbent body 3. Thereafter, liquid (water or water containing nutrients) is supplied into the liquid storage space 2. Then, the liquid fills the storage tank 6 through the liquid supply hole 7. Simultaneously, the liquid is supplied from the storage tank 6 to the absorbent body 3 through the liquid supply pipes 8. Thus, the absorbent body 3 absorbs a sufficient amount of liquid. The liquid, absorbed into the absorbent body 3, is supplied to the flowers, thus preventing the flowers from easily withering, or it supplies nutrients, required for growth of hydroponic plants, to the hydroponic plants.

[30] In the above state, if the storage tank 6 is running short of liquid, additional liquid is supplied into the liquid storage space 2.

[31] Of the attached drawings, FIG. 3 is a perspective view showing flowers arranged on the flower arrangement holder of the present invention, as an example. FIG. 4 is a perspective view showing hydroponic plants set in the flower arrangement holder of the present invention, as another example.

[32] As such, the flower arrangement holder having a hydroponic function according to the present invention keeps flowers from withering and maintains their freshness over a long period. In the case of hydroponic plants, the flower arrangement holder helps the hydroponic plants grow well.

### **Industrial Applicability**

[33] As described above, the present invention provides a flower arrangement holder having a hydroponic function which includes a storage tank containing a predetermined amount of liquid therein, an absorbent body seat formed in a central portion of the storage tank to receive therein an absorbent body, and a liquid storage space defined over the storage tank. Thus, the present invention has advantages in that flowers arranged in the flower arrangement holder do not quickly wither, and maintain their freshness over a long period. As well, the flower arrangement holder of the present invention is able to be used for hydroponic culture.

[34] Although the preferred embodiment of the present invention has been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.